What is claimed is:

1. A device for treatment of off gas from a reactor used for carbothermic production of aluminum comprising:

(a) a vertically oriented column having an upper part and a lower part;

(b) a gas inlet opening positioned in the lower part of said column;

(c) a gas outlet opening positioned in the upper part of said column;

(d) a vertical supply pipe in said upper part of said column for introducing a downward flow of particulate material into said column, said supply pipe being vertically movable; and

(e) a particulate discharge means positioned in said lower part of said column.

2. The device of claim 1 wherein said gas inlet opening is positioned in a side wall of said column in the lower part of said column.

3. The device of claim 1 wherein said gas inlet opening is positioned in a bottom wall of said column.

4. The device of claim 1 wherein said gas outlet opening is positioned in a side wall of said column in the upper part of said column.

5. The device of claim 1 wherein said particulate discharge means is a horizontally oriented rotatable valve positioned in a bottom wall of said column.

6. The device of claim 1 wherein said discharge means is a rotatable disc horizontally oriented in the lower part of said column and having a diameter less than the diameter of said lower part of said column and a discharge opening positioned in a bottom wall of said column.

7. The device of claim 1 wherein the upper part of the column is generally cylindrical.

8. The device of claim 1 wherein the lower part of the column is generally conical.

9. The device of claim 1 wherein the upper part of said column extends into said lower part of said column.

10. A method for treating off gas from a carbothermic aluminum producing reaction comprising:

(a) introducing particulate carbon in an upper part of a column;

(b) forming a height adjustable bed of said particulate carbon in said column;

(c) introducing off gas into a lower part of said column such that said off gas flows up through said bed of particulate carbon;

(d) discharging particulate carbon material through a lower part of said column; and

(e) adjusting the height of said bed of particulate carbon to maintain a retention time of said off gas in said particulate carbon.

11. The method of claim 10 further comprising increasing the height of said bed of particulate carbon by introducing more particulate carbon into said column.

12. The method of claim 10 further comprising decreasing the height of said bed of particulate carbon by discharging particulate carbon from said column.

13. The method of claim 10 wherein said off gas is introduced tangentially into the lower part of said column.